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19338

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Warmke, Jeffrey W.
Van Der Ploeg, Leonardus
- (ii) TITLE OF INVENTION: PROCESS FOR FUNCTIONAL EXPRESSION OF THE
PARA SODIUM CHANNEL
- (iii) NUMBER OF SEQUENCES: 7
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: John W. Wallen III
 - (B) STREET: P.O. Box 2000, 126 E. Lincoln Avenue
 - (C) CITY: Rahway
 - (D) STATE: New Jersey
 - (E) COUNTRY: USA
 - (F) ZIP: 07065-0900
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE:
 - (C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Wallen III, John W.
 - (B) REGISTRATION NUMBER: 35,403
 - (C) REFERENCE/DOCKET NUMBER: 19338
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (908) 594-3905
 - (B) TELEFAX: (908) 594-4720

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 33 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: cDNA
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

GACTCTAGAC GTTGGCCGCA TAGACAATGA CAG

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

AAGAGCTCGA CGAAGGGATC G

21

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 24 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

TCTTCGATCC CTTCGTCGAG CTCT

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(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

AAAGGATCCA AATATGATGA A

21

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 25 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

TTTGGATCCT TTTTCACACT CAATC

25

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 32 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

GACTCTAGAG CTAATACTCG CGTGCATCTT GG

32

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 6513 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

TCTAGACGTT GGCCGCATAG ACAATGACAG AAGATTCCGA CTCGATATCT GAGGAAGAAC	60
GCAGTTTGTT CCGTCCCTTT ACCCGCGAAT CATTGGTGCA AATCGAACAA CGCATTGCCG	120
CTGAACATGA AAAGCAGAAG GAGCTGGAAA GAAAGAGAGC CGAGGGAGAG GTGCCGCGAT	180
ATGGTCGCAA GAAAAACAA AAAGAAATCC GATATGATGA CGAGGACGAG GATGAAGGTC	240
CACAACCGGA TCCTACACTT GAACAGGGTG TGCCAATACC TGTTTCGATTG CAGGGCAGCT	300
TCCCGCCGGA ATTGGCCTCC ACTCCTCTCG AGGATATCGA TCCCTACTAC AGCAATGTAC	360
TGACATTTCGT AGTTGTAAGC AAAGGAAAAG ATATTTTTCG CTTTTCTGCA TCAAAAGCAA	420
TGTGGATGCT CGATCCATTC AATCCGATAC GTCGTGTGGC CATTTACATT CTAGTGCATC	480
CATTATTTTC CCTATTCATC ATCACCACAA TTCTCGTCAA CTGCATCCTG ATGATAATGC	540

CGACAACGCC	CACGGTTGAG	TCCACTGAGG	TGATATTCAC	CGGAATCTAC	ACATTTGAAT	600
CAGCTGTTAA	AGTGATGGCA	CGAGGTTTCA	TTTTATGCCC	GTTTACGTAT	CTTAGAGATG	660
CATGGAATTG	GCTGGACTTC	GTAATAATAG	CTTTAGCTTA	TGTGACCATG	GGTATAGATT	720
TAGGTAATCT	AGCAGCCCTG	CGAACGTTTA	GGGTGCTGCG	AGCGCTTAAA	ACCGTAGCCA	780
TTGTGCCAGG	CTTGAAGACC	ATCGTCGGCG	CCGTCATCGA	ATCGGTGAAG	AATCTGCGCG	840
ATGTGATTAT	CCTGACCATG	TTCTCCCTGT	CGGTGTTTCG	GTTGATGGGC	CTACAGATCT	900
ATATGGGCGT	GCTCACCAGG	AAGTGCATCA	AGAAGTTCCC	GCTGGACGGT	TCCTGGGGCA	960
ATCTGACCGA	CGAGAACTGG	GACTATCACA	ATCGCAATAG	CTCCAATTGG	TATTCCGAGG	1020
ACGAGGGCAT	CTCATTTCGG	TTATGCGGCA	ATATATCCGG	TGCGGGGCAA	TGCGACGACG	1080
ATTACGTGTG	CCTGCAGGGG	TTTGGTCCGA	ATCCGAATTA	TGGCTACACC	AGCTTCGATT	1140
CGTTCCGATG	GGCTTTCTCG	TCCGCCTTCC	GGCTGATGAC	ACAGGACTTC	TGGGAGGATC	1200
TGTACCAGCT	GGTGTTCGCG	GCCGCCGGAC	CATGGCACAT	GCTGTTCTTT	ATAGTCATCA	1260
TCTTCCTAGG	TTCAATCTAT	CTTGTGAATT	TGATTTTGGC	CATTGTTGCC	ATGTCGTATG	1320
ACGAATTGCA	AAGGAAGGCC	GAAGAAGAAG	AGGCTGCCGA	AGAGGAGGCG	ATACGTGAAG	1380
CGGAAGAAGC	TGCCGCCGCC	AAAGCGGCCA	AGCTGGAGGA	GCGGGCCAAT	GCGCAGGCTC	1440
AGGCAGCAGC	GGATGCGGCT	GCCGCCGAAG	AGGCTGCACT	GCATCCGGAA	ATGGCCAAGA	1500
GTCCGACGTA	TTCTTGCAATC	AGCTATGAGC	TATTTGTTGG	CGGCGAGAAG	GGCAACGATG	1560
ACAACAACAA	AGAGAAGATG	TCCATTGCGA	GCGTCGAGGT	GGAGTCGGAG	TCGGTGAGCG	1620
TTATACAAAG	ACAACCAGCA	CCTACCACAG	CACACCAAGC	TACCAAAGTT	CGTAAAGTGA	1680
GCACGACATC	CTTATCCTTA	CCTGGTTTAC	CGTTTAACAT	ACGCAGGGGA	TCACGTAGTT	1740
CTCACAAGTA	CACGATACGG	AACGGACGTG	GCCGCTTTGG	TATACCCGGT	AGCGATCGTA	1800
AGCCATTGGT	ATTGTCAACA	TATCAGGATG	CCCAGCAGCA	CTTGCCCTAT	GCCGACGACT	1860
CGAATGCCGT	CACCCCGATG	TCCGAAGAGA	ATGGGGCCAT	CATAGTGCCC	GTGTACTATG	1920
GCAATCTAGG	CTCCCGACAC	TCATCGTATA	CCTCGCATCA	GTCCCGAATA	TCGTATACCT	1980
CACATGGCGA	TCTACTCGGC	GGCATGGCCG	TCATGGGCGT	CAGCACAATG	ACCAAGGAGA	2040
GCAAATTGCG	CAACCGCAAC	ACACGCAATC	AATCAGTGGG	CGCCACCAAT	GGCGGCACCA	2100
CCTGTCTGGA	CACCAATCAC	AAGCTCGATC	ATCGCGACTA	CGAAATTGGC	CTGGAGTGCA	2160
CGGACGAAGC	TGGCAAGATT	AAACATCATG	ACAATCCTTT	TATCGAGCCC	GTCCAGACAC	2220

AAACGGTGGT	TGATATGAAA	GATGTGATGG	TCCTGAATGA	CATCATCGAA	CAGGCCGCTG	2280
GTCGGCACAG	TCGGGCAAGC	GATCGCGGTG	TCTCCGTTTA	CTATTTCCCA	ACAGAGGACG	2340
ATGACGAGGA	TGGGCCGACG	TTCAAAGACA	AGGCACTCGA	AGTGATCCTC	AAAGGCATCG	2400
ATGTGTTTTG	TGTGTGGGAC	TGTTGCTGGG	TTTGGTTGAA	ATTCAGGAG	TGGGTATCGC	2460
TCATCGTCTT	CGATCCCTTC	GTCGAGCTCT	TCATCACGCT	GTGCATTGTG	GTCAACACGA	2520
TGTTTCATGGC	AATGGATCAC	CACGATATGA	ACAAGGAGAT	GGAACGCGTG	CTCAAGAGTG	2580
GCAACTATTT	CTTCACCGCC	ACCTTTGCCA	TCGAGGCCAC	CATGAAGCTA	ATGGCCATGA	2640
GCCCCAAGTA	CTATTTCCAG	GAGGGCTGGA	ACATCTTCGA	CTTCATTATC	GTGGCCCTAT	2700
CGCTATTGGA	ACTGGGACTC	GAGGGTGTC	AGGGTCTGTC	CGTATTGCGT	TCCTTTTCGAT	2760
TGCTGCGTGT	ATTCAAAGTG	GCCAAGTCTT	GGCCACACT	TAATTTACTC	ATTTTCGATTA	2820
TGGGACGCAC	CATGGGCGCT	TTGGGTAATC	TGACATTTGT	ACTTTGCATT	ATCATCTTCA	2880
TCTTTGCGGT	GATGGGAATG	CAACTGTTTC	GAAAGAATTA	TCATGATCAC	AAGGACCGCT	2940
TTCCGGATGG	CGACCTGCCG	CGCTGGAATC	TCACCGACTT	TATGCACAGC	TTCATGATCG	3000
TGTTCCGGGT	GCTCTGCCGA	GAATGGATCG	AGTCCATGTG	GGACTGCATG	TACGTGGGCG	3060
ATGTCTCGTG	CATTCCCTTC	TTCTTGGCCA	CCGTTGTCAT	CGGCAATCTT	GTGGTACTTA	3120
ACCTTTTCTT	AGCCTTGCTT	TTGTCCAATT	TTGGCTCATC	TAGCTTATCA	GCGCCGACTG	3180
CCGATAACGA	TACGAATAAA	ATAGCCGAGG	CCTTCAATCG	AATTGGCCGA	TTTAAAAGTT	3240
GGGTTAAGCG	TAATATTGCT	GATTGTTTCA	AGTTAATACG	TAACAAATTG	ACAAATCAAA	3300
TAAGTGATCA	ACCATCAGGT	GAGAGGACCA	ACCAGATCAG	TTGGATTTGG	AGCGAAGAGC	3360
ATGGTGACAA	CGAACTGGAG	CTGGGCCACG	ACGAGATCCT	CGCCGACGGC	CTCATCAAGA	3420
AGGGGATCAA	GGAGCAGACG	CAACTGGAGG	TGGCCATCGG	GGATCGGATG	GAATTCACGA	3480
TACACGGCGA	CATGAAGAAC	AACAAGCCGA	AGAAATCCAA	ATATCTAAAT	AACGCAACGA	3540
TGATTGGCAA	CTCAATTAAC	CACCAAGACA	ATAGACTGGA	ACACGAGCTA	AACCATAGAG	3600
GTTTGTCTTT	ACAGGACGAC	GACACTGCCA	GCATTAAGTC	ATATGGTAGC	CATAAGAATC	3660
GACCATTCAA	GGACGAGAGC	CACAAGGGCA	GCGCCGAGAC	GATGGAGGGC	GAGGAGAAGC	3720
GCGACGCCAG	CAAGGAGGAT	TTAGGTCTCG	ACGAGGAACT	GGACGAGGAG	GGCGAATGCG	3780
AGGAGGGCCC	GCTCGACGGT	GATATCATTG	TTCATGCACA	CGACGAGGAT	ATACTCGATG	3840
AATATCCAGC	TGATTGCTGC	CCCGATTTCG	ACTATAAGAA	ATTTCCGATC	TTAGCCGGTG	3900

ACGATGACTC	GCCGTTCTGG	CAAGGATGGG	GCAATTTACG	ACTGAAAACT	TTTCAATTAA	3960
TTGAAAATAA	ATATTTTGAA	ACAGCTGTTA	TCACTATGAT	TTTAATGAGT	AGCTTAGCTT	4020
TGGCATTAGA	AGATGTACAT	CTGCCACAAA	GACCCATACT	GCAGGATATT	TTATACTATA	4080
TGGACAGAAT	ATTTACGGTT	ATATTCTTCT	TGGAAATGTT	AATCAAGTGG	TTGGCGCTCG	4140
GCTTCAAAGT	GTACTTCACC	AACGCGTGGT	GTTGGCTCGA	TTTCGTGATT	GTCATGGTAT	4200
CGCTTATCAA	CTTCGTTGCT	TCACTTGTTG	GAGCTGGTGG	TATTCAAGCC	TTCAAGACTA	4260
TGCGAACGTT	AAGAGCACTG	AGACCACTAC	GTGCCATGTC	CCGTATGCAG	GGCATGAGGG	4320
TCGTCGTTAA	TGCGCTGGTA	CAAGCTATAC	CGTCCATCTT	CAATGTGCTA	TTGGTGTGTC	4380
TAATATTTTG	GCTAATTTTT	GCCATAATGG	GTGTACAGCT	TTTTGCTGGA	AAATATTTTA	4440
AGTGCAGAGG	CATGAATGGC	ACGAAGCTCA	GCCACGAGAT	CATACCAAAT	CGCAATGCCT	4500
GCGAGAGCGA	GAAGTACACG	TGGGTGAATT	CAGCAATGAA	TTTCGATCAT	GTAGGTAACG	4560
CGTATCTGTG	CCTTTTCCAA	GTGGCCACCT	TCAAAGGCTG	GATACAAATC	ATGAACGATG	4620
CTATCGATTG	ACGAGAGGTG	GACAAGCAAC	CAATTTCGTA	AACGAACATC	TACATGTATT	4680
TATATTTTCG	ATTCTTCATC	ATATTTGGAT	GCTTTTTCAC	ACTCAATCTG	TTCATTGGTG	4740
TTATCATTGA	TAATTTTAAT	GAGCAAAAAG	AAAAAGCAGG	TGGATCATTG	GAAATGTTCA	4800
TGACAGAAGA	TCAGAAAAAG	TACTATAATG	CTATGAAAAA	GATGGGCTCT	AAAAAACCAT	4860
TAAAAGCCAT	TCCAAGACCA	AGGTGGCGAC	CACAAGCAAT	AGTCTTTGAA	ATAGTAACCG	4920
ATAAGAAATT	CGATATAATC	ATTATGTTAT	TCATTGGTCT	GAACATGTTT	ACCATGACCC	4980
TCGATCGTTA	CGATGCGTCG	GACACGTATA	ACGCGGTCCT	AGACTATCTC	AATGCGATAT	5040
TCGTAGTTAT	TTTCAGTTCC	GAATGTCTAT	TAAAAATATT	CGCTTTACGA	TATCACTATT	5100
TTATTGAGCC	ATGGAATTTA	TTTGATGTAG	TAGTTGTCAT	TTTATCCATC	TTAGGTCTTG	5160
TACTTAGCGA	TATTATCGAG	AAGTACTTCG	TGTCGCCGAC	CCTGCTCCGA	GTGGTGCGTG	5220
TGGCGAAAGT	GGGCCGTGTC	CTTCGACTGG	TGAAGGGAGC	CAAGGGCATT	CGGACACTGC	5280
TCTTCGCGTT	GGCCATGTCT	CTGCCGGCCC	TGTTCAACAT	CTGCCTGCTG	CTGTTCTCTG	5340
TCATGTTTAT	CTTTGCCATT	TTCCGGCATGT	CGTTCTTCAT	GCACGTGAAG	GAGAAGAGCG	5400
GCATTAACGA	CGTCTACAAC	TTCAAGACCT	TTGGCCAGAG	CATGATCCTG	CTCTTTCAGA	5460
TGTCGACGTC	AGCCGGTTGG	GATGGTGTAC	TGGACGCCAT	TATCAATGAG	GAAGCATGCG	5520
ATCCACCCGA	CAGCGACAAA	GGCTATCCGG	GCAATTGTGG	TTCAGCGACC	GTTGGAATAA	5580

CGTTTCTCCT CTCATACCTA GTTATAAGCT TTTTGATAGT TATTAATATG TACATTGCTG	5640
TCATTCTCGA GAACTATAGT CAGGCCACCG AGGACGTGCA AGAGGGTCTA ACCGACGACG	5700
ACTACGACAT GTACTATGAG ATCTGGCAGC AATTTCGATCC GGAGGGCACC CAGTACATAC	5760
GCTATGATCA GCTGTCCGAA TTCCTGGACG TACTGGAGCC CCCGCTGCAG ATCCACAAAC	5820
CGAACAAGTA CAAGATCATA TCGATGGACA TACCCATCTG TCGCGGTGAC CTCATGTACT	5880
GCGTCGACAT CCTCGACGCC CTTACGAAAG ACTTCTTTGC GCGGAAGGGC AATCCGATAG	5940
AGGAGACGGG TGAGATTGGT GAGATAGCGG CCCGCCCGGA TACGGAGGGC TACGAGCCCG	6000
TCTCATCAAC GCTGTGGCGT CAGCGTGAGG AGTACTGCGC CCGGCTAATC CAGCACGCCT	6060
GGCGAAAGCA CAAGGCGCGC GCGGAGGGAG GTGGGTCCTT TGAGCCGGAT ACGGATCATG	6120
GCGATGGCGG TGATCCGGAT GCCGGGGACC CGGCGCCCGA TGAAGCAACG GACGGCGATG	6180
CGCCCGCTGG TGGAGATGGT AGTGTTAACG GTACTGCAGA AGGAGCTGCC GATGCCGATG	6240
AGAGTAATGT AAATAGTCCG GGTGAGGATG CAGCGGCGGC GGCAGCAGCA GCAGCAGCAG	6300
CGGCGGCGGC GGGCACGACG ACGGCGGGAA GTCCCGGAGC GGGTAGCGCC GGGCGACAGA	6360
CCGCCGTTCT CGTGGAGAGC GACGGGTTTCG TGACGAAGAA CGGCCACAAG GTGGTCATCC	6420
ACTCGCGATC GCCGAGCATC ACGTCGCGCA CGGCGGATGT CTGAGCCAGG CCTCGCCCCC	6480
CCCTCCAAGA TGCACGCGAG TATTAGCTCT AGA	6513